

1    **WE CLAIM:**

1    1.    A spindle motor for use in a disk drive having a rotatable head stack assembly, the spindle  
2    motor comprising:

3                    a spindle motor hub having an axis of rotation;

4                    a magnet radially attached about the spindle motor hub; and

5                    a spindle motor stator including:

6                    a stator rim; and

7                    a plurality of stator teeth arrayed about and internally extending from the  
8                    stator rim towards the axis of rotation, the stator teeth being sized to fit about the  
9                    magnet in operable communication therewith for rotating the spindle motor hub,  
10                  two respective ones of the stator teeth being spaced apart along the stator rim to  
11                  allow the head stack assembly to pivot between the two respective ones of the stator  
12                  teeth.

1 2. The spindle motor of Claim 1 wherein the stator teeth are evenly spaced apart along the  
2 stator rim.

1 3. The spindle motor of Claim 1 wherein the stator teeth are symmetrically arrayed about an  
2 axis bisecting the stator rim between the spaced apart two respective ones of the stator teeth.

1 4. The spindle motor of Claim 1 wherein the stator rim is formed of multiple segments.

1 5. The spindle motor of Claim 1 further comprises a magnetic shield between the spaced  
2 apart two respective ones of the stator teeth adjacent the magnet for shielding the head stack  
3 assembly from the magnet.

1 6. The spindle motor of Claim 5 wherein the magnetic shield has two radial portions  
2 extending from adjacent the magnet towards the stator rim respectively adjacent each of the  
3 spaced apart two respective ones of the stator teeth for shielding the head stack assembly from  
4 the spaced apart two respective ones of the stator teeth.

1 7. A spindle motor for use in a disk drive having a rotatable head stack assembly, the  
2 spindle motor comprising:  
3                   a spindle motor hub;  
4                   a magnet radially attached about the spindle motor hub; and  
5                   a spindle motor stator including:  
6                   a stator rim;  
7                   a plurality of wound stator teeth arrayed about and internally extending  
8                   from the stator rim, windings being formed about the wound stator teeth, the  
9                   wound stator teeth being sized to fit about the magnet in operable communication  
10                  therewith for rotating the spindle motor hub; and  
11                  at least one bare stator tooth internally extending from the stator rim  
12                  between two respective ones of the wound stator teeth, the at least one bare stator  
13                  tooth being positionable adjacent the head stack assembly for allowing the head  
14                  stack assembly to pivot over the at least one bare stator tooth.

1 8. A spindle motor for use in a disk drive having a rotatable head stack assembly, the  
2 spindle motor comprising:

3 a spindle motor hub;

4 a magnet radially attached about the spindle motor hub; and

5 a spindle motor stator including:

6 a stator rim;

7 a plurality of wound stator teeth arrayed about and internally extending from

8 the stator rim, windings being formed about the wound stator teeth, the wound stator

9 teeth being sized to fit about the magnet in operable communication therewith for

10 rotating the spindle motor hub, at least one of the wound stator teeth being a reduced

11 winding height stator tooth, windings being formed about the reduced winding

12 height stator tooth to a winding height less than that of a remainder of the wound

13 stator teeth, the reduced winding height stator tooth being positionable adjacent the

14 head stack assembly for allowing the head stack assembly to pivot over the reduced

15 winding height stator tooth.

1 9. A disk drive comprising:

2           a disk drive base;

3           a head stack assembly rotatably attached to the disk drive base; and

4           a spindle motor attached to the disk drive base including:

5                a spindle motor hub having an axis of rotation;

6                a magnet radially attached about the spindle motor hub; and

7                a spindle motor stator including:

8                    a stator rim; and

9                        a plurality of stator teeth arrayed about and internally extending from

10                the stator rim towards the axis of rotation, the stator teeth being sized to fit

11                about the magnet in operable communication therewith for rotating the

12                spindle motor hub, two respective ones of the stator teeth being spaced apart

13                along the stator rim to allow the head stack assembly to pivot between the

14                two respective ones of the stator teeth.

1 10. The disk drive of Claim 9 wherein the stator teeth are evenly spaced apart along the stator  
2 rim.

1 11. The disk drive of Claim 9 wherein the stator teeth are symmetrically arrayed about an axis  
2 bisecting the stator rim between the spaced apart two respective ones of the stator teeth.

1 12. The disk drive of Claim 9 wherein the stator rim is formed of multiple segments.

1 13. The disk drive of Claim 9 further comprises a magnetic shield between the spaced apart  
2 two respective ones of the stator teeth adjacent the magnet for shielding the head stack assembly  
3 from the magnet.

1 14. The disk drive of Claim 13 wherein the magnetic shield has two radial portions extending  
2 from adjacent the magnet towards the stator rim respectively adjacent each of the spaced apart two  
3 respective ones of the stator teeth for shielding the head stack assembly from the spaced apart two  
4 respective ones of the stator teeth.

1 15. A disk drive comprising:

2           a disk drive base;

3           a head stack assembly rotatably attached to the disk drive base; and

4           a spindle motor attached to the disk drive base including:

5               a spindle motor hub;

6               a magnet radially attached about the spindle motor hub; and

7               a spindle motor including:

8                   a stator rim;

9                   a plurality of wound stator teeth arrayed about and internally

10           extending from the stator rim, windings being formed about the wound

11           stator teeth, the wound stator teeth being sized to fit about the magnet in

12           operable communication therewith for rotating the spindle motor hub; and

13               at least one bare stator tooth internally extending from the stator

14           rim between two respective ones of the wound stator teeth, the at least one

15           bare stator tooth being positionable adjacent the head stack assembly for

16           allowing the head stack assembly to pivot over the at least one bare stator

17           tooth.

1 16. A disk drive comprising:

2           a disk drive base;

3           a head stack assembly rotatably attached to the disk drive base; and

4           a spindle motor attached to the disk drive base including:

5                a spindle motor hub;

6                a magnet radially attached about the spindle motor hub; and

7                a spindle motor stator including:

8                    a stator rim;

9                    a plurality of wound stator teeth arrayed about and internally

10                extending from the stator rim, windings being formed about the wound

11                stator teeth, the wound stator teeth being sized to fit about the magnet in

12                operable communication therewith for rotating the spindle motor hub, at

13                least one of the wound stator teeth being a reduced winding height stator

14                tooth, windings being formed about the reduced winding height stator tooth

15                to a winding height less than that of a remainder of the wound stator teeth,

16                the reduced winding height stator tooth being positionable adjacent the head

17                stack assembly for allowing the head stack assembly to pivot over the

18                reduced winding height stator tooth.